

PCT/EP00/00877  
EMBL

19. Feb. 2001

New claims

1. A DNA sequence,  
~~characterized in that it encodes a protein that is capable of inducing oocyte maturation and/or modulating cell division and contains:~~
  - (a) a sequence as shown in SEQ ID NO.1 or 2,
  - (b) a sequence which encodes the same protein as (a) but is degenerate as a result of the genetic code,
  - (c) a sequence hybridizing under stringent conditions to the sequences of (a) and/or (b),
  - (d) a sequence according to (a), (b) or (c), wherein this sequences contain one or more introns,
  - (e) a sequence which differs from (a), (b), (c) or (d) due to its origin from a different species, but encodes a protein with the same or a very similar activity.
2. A DNA sequence according to claim 1,  
~~characterized in that it further contains expression control sequences operably linked to the coding DNA sequence.~~
3. Expression vector,  
~~characterized in that it contains a DNA sequence according to anyone of claims 1 or 2.~~
4. Protein  
~~characterized in that it is encoded by a DNA sequence according to anyone of claims 1 or 2.~~
5. Protein according to claim 4,  
~~characterized in that it contains an amino acid as shown in SEQ ID NO.3 or 4.~~

6. Protein according to claim 4 or 5,  
characterized in that it shows an oocyte maturation inducing activity  
and/or a cell division modulating activity.
7. Protein according to anyone of claims 4 to 6,  
characterized in that it contains deletions, substitutions and/or  
additions of amino acids that do not substantially affect its activity.
8. Protein according to anyone of claims 4 to 7,  
wherein a second protein is fused to build a fusion protein.
9. Use of a protein according to anyone of claims 4 to 8 for inducing  
oocyte maturation and/or modulating cell division and/or differentiation  
and/or proliferation.
10. Pharmaceutical composition containing as active agent a protein  
according to anyone of claims 5 to 8.
11. Pharmaceutical composition according to claim 10, containing the  
protein in combination with a pharmaceutically acceptable carrier or  
adjuvant.
12. Use of a pharmaceutical composition according to claim 10 or 11 for  
modulating cell proliferation, cell differentiation, or for fertility  
treatments.
13. Use of a protein according to anyone of claims 4 to 8 as a diagnostic  
marker for cell proliferation and/or cell differentiation.
14. Use of a protein according to claims 4 to 8 as a target for the  
identification of drugs that modulate cell cycle progression and/or cell  
proliferation and/or cell differentiation.
15. Use according to claim 14 for the development of pharmaceuticals for

the treatment of cancer or ~~other~~ pathological situations with uncontrolled cell proliferation.

16. Use of a DNA sequence according to anyone of claims 1 or 2 or a part thereof as diagnostic marker for cell proliferation and/or cell differentiation for hybridization experiments to determine the amount of homologous nucleic acid sequences.